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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/599,661

10/04/2006

Kazumitsu Seki

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EXAMINER

CHEN, YU

ART UNIT

PAPER NUMBER

4116

MAIL DATE

DELIVERY MODE

02/26/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/599,661	Applicant(s) SEKI ET AL.	
	Examiner YU CHEN	Art Unit 4116	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 February 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) 5 and 6 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04 October 2006 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/04/2006 11/27/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This Office Action is in response to the election filed 02 February 2009.

Election/Restrictions

Applicant's election with traverse of claims 1-4 in the reply filed on 02 February 2009 is acknowledged. The traversal is on the ground(s) that there is no undue burden for the examiner to conduct a substantive search of the claims 5-6. This is not found persuasive because the limitations including "a semiconductor chip, wire bond and resin mold" in the nonelected invention are not presented in the elected claims 1-4. Therefore, there exist undue burden on the examiner to conduct additional searches pertaining to these limitations.

The requirement is still deemed proper and is therefore made FINAL.

Claims 5-6 withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 02 February 2009.

Drawings

Figures 2a and 2b should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled

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"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

Claims 1 and 3 are objected to because of the following informalities: There is insufficient antecedent basis for the limitation "the external connection terminals" in lines 3-4 of the claims. For examining purposes, the limitation is read to be "a plurality of external connection terminals." Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4 are rejected under 35 U.S.C. 102(b) as being anticipated by Wakabayashi et al. (EP Patent Publication No. 0474499).

In re claims 1 and 3, Wakabayashi (e.g. Fig. 1-2) discloses a palladium-plated lead finishing structure (see Fig. 2) characterized in that Pd or a Pd alloy 24 is plated to a thickness of not more than 0.3 μm (the Pd-plated film has a thickness of 0.3 μm in one example; page 4, lines 32-35) on the surfaces of a plurality of external connection

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terminals (the plating is done on the lead frame 10 which includes outer leads 12) of a semiconductor part (lead frame 10) using copper or a copper alloy-based (iron or iron-nickel-based) material (Page 3, lines 6-7), without interposing any underlying layer or any intermediate metal layer between said material and said Pd- or Pd alloy-plated layer (the Pd-plated film may be directly formed on said material; page 3, lines 8-10).

In re claims 2 and 4, Wakabayashi (e.g. Fig. 2) discloses Au or an Au alloy 28 is plated to a thickness of not more than 0.1 μm on the top of said Pd or Pd alloy layer (Page 3, lines 14-17). Note the applicant discloses the Au-plated layer has a thickness that corresponds to a single Au atom in the thinnest case (monatomic layer thickness) as taught by Wakabayashi.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kim et al. (US Patent No. 5,958,607) and Tanaka et al. (US Patent No. 6,521,358) pertain to forming a palladium layer on a base material for a lead frame. In particular, Kim discloses forming a palladium layer on a lead frame excluding a nickel intermediate layer, thereby preventing nickel diffusion.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to YU CHEN whose telephone number is 571-270-7881. The examiner can normally be reached on Monday-Thursday 7:30AM-6:00PM EDT.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kiesha L. Rose can be reached on 571-272-1844. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/YU CHEN/
Examiner, Art Unit 4116

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Art Unit 4116

/Kiesha L. Rose/
Supervisory Patent Examiner, Art Unit 4116